TAB 1

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The Collins patent is directed to an amplification process for amplifying a target polynucleotide contained in a sample, comprising the steps of contacting the sample with a first support which binds to the target polynucleotide; substantially separating the support and bound target polynucleotide from the sample; and amplifying the target polynucleotide. The term "amplify" is defined very broadly in the specification. This definition is broad enough to include, for example, amplification of captured polynucleotides by cloning; production of cell-free translation products of the captured polynucleotides; and the enzymatic reproduction of the captured polynucleotide.

Numerous prior art references disclose binding of polynucleotides to solid supports. separating the support and the bound polynucleotides from the sample and subsequently amplifying the polynucleotides by insertion into cloning vectors and growing up in host cells. As merely illustrative of such papers, one can mention Arsenyan, S.G. et al., Gene 11:97-108 (1980). Other references disclose binding polynucleotides to solid supports, separating the support and bound polynucleotides from the sample and amplifying the polynucleotides by using them to produce translation products in cell-free translation systems. See, for example, Strair, R.K. et al, P.N.A.S. 74:4346-4350 (1977) and Hirsch, F.W. et al, P.N.A.S. 75:1736-1739 (1978). Note also that the Strair reference describes the use of a "retrievable support" for capture of the polynucleotide. Still other references disclose binding of polynucleotides to solid supports, separating the support and bound polynucleotides from the sample and amplifying the polynucleotides enzymatically. These include Montgomery, D.L. et al, J. Biol. Chem., 257:7756-7761(1982) and Boss, J.M. et al. J. Biol. Chem., 256:12958-12961 (1981). Again, note that the Boss reference discloses a dispersible support. I would also draw your attention to Georgiev, G.P. et al, Science, 195:394-397 (1977), which discloses "the preliminary enrichment [by capture on a solid support] of DNA used for amplification".

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